

IN THE CLAIMS

1-19. (Canceled).

20. (New) A compile method for generating an object program file from a source program having a plurality of procedures, comprising the steps of:

by regarding procedures of said source program as source-program compile units, compiling said source program on a procedure basis to generate said plurality of object-program compile units;

in said object program file, storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another in said object program file, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing analysis information obtained by syntax analysis of said source-program in said object program file;

after making a change in said source program,
analyzing syntax of said source program;

comparing said analysis information obtained by said
syntax analysis with said analysis information stored in said
object program file;

if both the analysis information do not coincide,
compiling a plurality of source-program compile units
constituting said change source program, to generate a
plurality of new object-program compile units; and

updating said plurality of source-program compile
units stored in said object program file so as to be the same
as said plurality of source-program compile units constituting
said changed source program, updating said plurality of
object-program compile units stored in said object program
file so as to be the same as said new object-program compile
units, and updating said analysis information stored in said
object program file so as to be the same as the analysis
information thus obtained,

wherein said analysis information is a version of a
compiler used for compilation.

21. (New) A compiler for generating an object program file from a source program having a plurality of procedures, comprising;

an input part for inputting said source program;

a processing part for, by regarding procedure of said source program as source-program compile units, compiling said procedures on a procedure basis to generate a plurality of object-program compile units;

a processing part for storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another, said plurality of source-program compile units being used to update said object-program file on an object-program compile unit basis;

a processing part, in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing analysis information resulting from syntax analysis of said source program in said object program file;

a processing part for analyzing syntax of said source program after changes are made in said source program;

a processing part for comparing analysis information obtained by said syntax analysis with said analysis information stored in said object program file;

a processing part for, if both the analysis information do not coincide, compiling a plurality of source-program compile units constituting said changed source program, to generate a plurality of new object-program compile units;

a processing part for updating said plurality of source-program compile units stored in said object program file so as to be the same as said plurality of source-program compile units constituting said changed source program, and updating said plurality of object-program compile units stored in said object program file so as to be the same as said plurality of new object-program compile units, and updating said analysis information stored in said object program file so as to be the same as said analysis information thus obtained; and

an output part for outputting said object program file,

wherein said analysis information is a version of a compiler used for compilation.

22. (New) A compile method for generating an object program file from a source program having a plurality of procedures, comprising the steps of:

by regarding procedures of said source program as source-program compile units, compiling said source program on a procedure basis to generate said plurality of object-program compile units;

in said object program file, storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another in said object program file, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing analysis information obtained by syntax analysis of said source program in said object program file;

after making a change in said source program,
analyzing syntax of said source program;

comparing said analysis information obtained by said
syntax analysis with said analysis information stored in said
object program file;

if both the analysis information do not coincide,
compiling a plurality of source-program compile units
constituting said changed source program to generate a
plurality of new object-program compile units; and

updating said plurality of source-program compile
units stored in said object program file so as to be the same
as said plurality of source-program compile units constituting
said changed source program, updating said plurality of
object-program compile units stored in said object program
file so as to be the same as said new object-program compile
units, and updating said analysis information stored in said
object program file so as to be the same as the analysis
information thus obtained,

wherein said analysis information is an optimization
level of a compiler used for compilation.

23. (New) A compiler for generating an object program file from a source program having a plurality of procedures, comprising;

an input part for inputting said source program;

a processing part for, by regarding procedures of said source program as source-program compile units, compiling said procedures on a procedure basis to generate a plurality of object-program compile units;

a processing part for storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

a processing part, in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing analysis information resulting from syntax analysis of said source program in said object program file;

a processing part for analyzing syntax of said source program after changes are made in said source program;

a processing part for comparing analysis information obtained by said syntax analysis with said analysis information stored in said object program file;

a processing part for, if both the analysis information do not coincide, compiling a plurality of source-program compile units constituting said changed source program to generate a plurality of new object-program compile units;

a processing part for updating said plurality of source-program compile units stored in said object program file so as to be the same as said plurality of source-program compile units constituting said changed source program, and updating said plurality of object-program compile units stored in said object program file so as to be the same as said plurality of new object-program compile units, and updating said analysis information stored in said object program file so as to be the same as said analysis information obtained; and

an output part for outputting said object program file,

wherein said analysis information is an optimization level of a compiler used for compilation.

24. (New) A compile program executing a compile method for generating an object program file from a source program having a plurality of procedures on a computer, comprising the steps of:

by regarding procedures of said source program as source-program compile units, compiling said source program on a procedure basis to generate said plurality of object-program compile units;

in said object program file, storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another in said object program file, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing analysis information obtained by syntax analysis of said source-program in said object program file;

after making a change in said source program, analyzing syntax of said source program;

comparing said analysis information obtained by said syntax analysis with said analysis information stored in said object program file;

if both the analysis information do not coincide, compiling a plurality of source-program compile units constituting said change source program, to generate a plurality of new object-program compile units; and

updating said plurality of source-program compile units stored in said object program file so as to be the same as said plurality of source-program compile units constituting said changed source program, updating said plurality of object-program compile units stored in said object program file so as to be the same as said new object-program compile units, and updating said analysis information stored in said object program file so as to be the same as the analysis information thus obtained,

wherein said analysis information is a version of a compiler used for compilation.

25. (New) A compile program executing a compile method for generating an object program file from a source program

having a plurality of procedures on a computer, comprising the steps of:

by regarding procedures of said source program as source-program compile units, compiling said source program on a procedure basis to generate said plurality of object-program compile units;

in said object program file, storing said plurality of object-program compile units and said plurality of source-program compile units respectively associated with one another in said object program file, said plurality of source-program compile units being used to update said object program file on an object-program compile unit basis;

in addition to storing said plurality of object-program compile units and said plurality of source-program compile units, storing analysis information obtained by syntax analysis of said source program in said object program file;

after making a change in said source program, analyzing syntax of said source program;

comparing said analysis information obtained by said syntax analysis with said analysis information stored in said object program file;

if both the analysis information do not coincide, compiling a plurality of source-program compile units constituting said changed source program to generate a plurality of new object-program compile units; and

updating said plurality of source-program compile units stored in said object program file so as to be the same as said plurality of source-program compile units constituting said changed source program, updating said plurality of object-program compile units stored in said object program file so as to be the same as said new object-program compile units, and updating said analysis information stored in said object program file so as to be the same as the analysis information thus obtained,

wherein said analysis information is an optimization level of a compiler used for compilation.